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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/518,904

12/23/2004

Takehiko Tanabu

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EXAMINER

SAUNDERS JR, JOSEPH

ART UNIT

PAPER NUMBER

2614

MAIL DATE

DELIVERY MODE

05/26/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/518,904	Applicant(s) TANABU ET AL.	
	Examiner Joseph Saunders	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on March 29, 2010 has been entered. Claims 2 and 7 are currently pending and considered below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al. (US 6,744,895 B2), hereinafter Miyamoto, in view of Han et al. (US 2002/0071590 A1), hereinafter Han.

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Claim 2: Miyamoto discloses a loudspeaker comprising: a hollow frame (case 21) having opening sections at its upper side and lower side; a hat-shaped yoke (pole piece 22) whose both ends are supported by an inner wall of the frame; a ring-shaped first magnet (annular first permanent magnet 23) being coupled with an upper surface of an outer periphery of the yoke; a columnar second magnet (disc shaped second permanent magnet 25) being coupled with an inner bottom of a middle section of the yoke; a ring-shaped first plate (annular first top plate 24) being coupled with an upper surface of the first magnet; a plate-type second plate (second top plate 26) being coupled with a lower surface of the second magnet; a first diaphragm (second diaphragm 30) whose outer periphery is fixed to an upper opening of the frame; a second diaphragm (first diaphragm 27) whose outer periphery is fixed to a lower opening of the frame; a ring-shaped first voice coil (annular second voice coil 33) whose one end is fixed to the first diaphragm (second diaphragm 30) and other end is placed at a first magnetic gap (annular second magnetic gap 35) formed between an inner peripheral surface of the first plate (annular first top plate 24) and an outer peripheral surface of the middle section of the yoke (pole piece 22c); and a second voice coil (annular second voice coil 32) whose one end is fixed to the second diaphragm (first diaphragm 27) and other end is placed at a second magnetic gap (annular first magnetic gap 34) formed between an inner (should be corrected to outer) peripheral surface of the second plate (second top plate 26) and an inner peripheral surface of the middle section of the yoke (pole piece 22c).

Miyamoto *does not disclose* wherein the frame is integrated with an outer peripheral part of a connected-component which is formed by coupling the yoke with the first magnet and the first plate, and the frame being molded of a resin and the connected-component is integrated by using insert-molding with a reference plane of an upper surface of the yoke.

Han discloses a magnetic circuit 500 for a micro speaker in which a speaker frame 400 (connected-component) is formed through insert injection molding ([0031], [0032], and [0035]) by injecting a resin into the gap within the dies, so that a speaker frame is formed to unitizingly secure the yoke part 100, magnet 200, and upper plate 300 (Abstract, Figure 6). Han further discloses wherein an upper surface of the yoke (The upper surface of yoke part 100 which is the opposite side where stepped securing part 130 is located, see Figure 2.) thereof is integrated as a reference plane in mounting for a mold of the frame (See Figure 6. When forming the mold of the integrated frame the magnetic circuit 500 of figure 3, which is upside down in figure 6, is placed in the mold, the upper surface of the yoke 100 which is opposite to the side with stepped securing portion 130 is butted against the surface of the lower die 420, at the protruding section, and used as a reference plane).

Since the object of Miyamoto's invention is to provide a loudspeaker that will produce sufficient volume without increasing the size of the loudspeaker (Column 1 Lines 65 – 67), it would have been obvious to one of ordinary skill in the art at the time of the invention to secure the magnetic circuit of Miyamoto to the case in a manner disclosed by Han since Han's invention allows for a yoke part, a magnet placed upon

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the yoke part, and an upper plate placed upon the magnet to be coupled to a speaker frame resulting in a slim, firmly connected product without requiring a separate coupling of the components by means of an adhesive (Paragraph 11).

Claim 7: Miyamoto discloses a loudspeaker comprising: a hollow frame (case 21) having opening sections at its upper side and lower side; a hat-shaped yoke (pole piece 22) whose both ends are supported by an inner wall of the frame; a ring-shaped first magnet (annular first permanent magnet 23) being coupled with an upper surface of an outer periphery of the yoke; a columnar second magnet (disc shaped second permanent magnet 25) being coupled with an inner bottom of a middle section of the yoke; a ring-shaped first plate (annular first top plate 24) being coupled with an upper surface of the first magnet; a plate-type second plate (second top plate 26) being coupled with a lower surface of the second magnet; a first diaphragm (second diaphragm 30) whose outer periphery is fixed to an upper opening of the frame; a second diaphragm (first diaphragm 27) whose outer periphery is fixed to a lower opening of the frame; a ring-shaped first voice coil (annular second voice coil 33) whose one end is fixed to the first diaphragm (second diaphragm 30) and other end is placed at a first magnetic gap (annular second magnetic gap 35) formed between an inner peripheral surface of the first plate (annular first top plate 24) and an outer peripheral surface of the middle section of the yoke (pole piece 22c); and a second voice coil (annular second voice coil 32) whose one end is fixed to the second diaphragm (first diaphragm 27) and other end is placed at a second magnetic gap

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(annular first magnetic gap 34) formed between an inner (should be corrected to outer) peripheral surface of the second plate (second top plate 26) and an inner peripheral surface of the middle section of the yoke (pole piece 22c), and wherein a loudspeaker on a side on the second diaphragm is used as a receiver ("The first voice coil 32 and the first diaphragm 27 are used for a receiver for converting a voice signal into voice, and the second voice coil 33 and the second diaphragm 30 are used for a speaker for reproducing a calling information sound in response to a calling signal," Column 2 Line 66 – Column 3 Line 3).

Miyamoto *does not disclose* wherein the frame is integrated with an outer peripheral part of a connected-component which is formed by coupling the yoke with the first magnet and the first plate.

Han discloses a magnetic circuit 500 for a micro speaker in which a speaker frame 400 (connected-component) is formed through insert injection molding ([0031], [0032], and [0035]) by injecting a resin into the gap within the dies, so that a speaker frame is formed to unitizingly secure the yoke part 100, magnet 200, and upper plate 300 (Abstract, Figure 6).

Since the object of Miyamoto's invention is to provide a loudspeaker that will produce sufficient volume without increasing the size of the loudspeaker (Column 1 Lines 65 – 67), it would have been obvious to one of ordinary skill in the art at the time of the invention to secure the magnetic circuit of Miyamoto to the case in a manner disclosed by Han since Han's invention allows for a yoke part, a magnet placed upon the yoke part, and an upper plate placed upon the magnet to be coupled to a speaker

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frame resulting in a slim, firmly connected product without requiring a separate coupling of the components by means of an adhesive (Paragraph 11).

Response to Arguments

4. Applicant's arguments with respect to claims 2 and 7 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Saunders whose telephone number is (571) 270-1063. The examiner can normally be reached on Monday - Thursday, 9:00 a.m. - 4:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S./
Examiner, Art Unit 2614

/Vivian Chin/
Supervisory Patent Examiner, Art Unit 2614